

What is Claimed is:

1. A cooling system for a work machine, which comprises a radiator for cooling a coolant for an engine and a cooling fan for forcibly cooling the radiator,

the system further comprising: (1) a variable displacement hydraulic pump driven by the engine; (2) a forwardly and reversely rotatable hydraulic motor operated by hydraulic oil discharged from the hydraulic pump; (3) a cooling fan driven by the hydraulic motor; (4) a selector valve for switching the rotating direction of the hydraulic motor between a forward direction and a reverse direction; and (5) controlling means for controlling switching of the selector valve and controlling the hydraulic pump so as to minimize the discharge oil rate of the hydraulic pump during switching of the selector valve.

2. The cooling system for a work machine according to claim 1, wherein the controlling means controls the selector valve so as to change the rotating direction of the hydraulic motor from the forward direction to the reverse direction based on enumeration data from an operating time meter for counting the operating time of the work machine.

3. The cooling system for a work machine according to claim 1 or 2, wherein the driving time of the hydraulic motor in the forward direction and the driving time of the hydraulic motor in the reverse direction are settable by time setting means.